

The Fit Individual

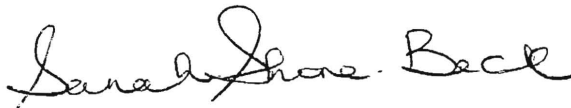
An Honors Thesis (HONR 499)

By

Chadwick Balilo

Thesis Advisor

Sarah Shore-Beck

A handwritten signature in black ink that reads "Sarah Shore-Beck". The signature is written in a cursive style with a large, looping 'S' at the beginning and a distinct 'Beck' at the end.

Ball State University

Muncie, IN

May 2014

Expected Date of Graduation

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Abstract

Fitness is within reach for anyone. All that is needed to succeed is a little motivation. Adopting an active lifestyle is something that almost everyone has struggled with at some point in their life. This paper seeks to evaluate the reasons behind plans failing and suggest how to adopt a healthier lifestyle. Through online research as well as personal experience, this paper serves as a tool to help motivate people to get off the couch and into their running shoes. Exercise requires a plan, dedication, and the knowledge of how to avoid failure. Adopting this lifestyle is simple in concept, and this paper can help be the first step.

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Introduction

It is something we have all struggled with—a series of never-meant-to-be beach bodies and broken New Year’s resolutions. We look in the mirror and promise ourselves that the time for change is now. From obesity to heart disease, exercise has been proven to be the magic cure. However, the United States continues to get heavier and heavier. How is it that we have a magic treatment in our grasp, but we fall short of the delivery every time? Exercise compliance is something that almost every person has struggled with at some point in time. This paper will evaluate some reasons behind exercise inconsistency and suggest methods to develop and adhere to a successful exercise plan.

I understand the difficulty behind adopting an exercise regimen because I lived a sedentary lifestyle for almost twenty years. Some people are born athletic, and some are made. I, however, found more satisfaction on a television screen than throwing a ball around. My friends have told me about their days of little league and their high school glory on the varsity team. Conversely, I joined track because there were no tryouts and I wanted to look well rounded on my college applications. Exercise and sports go hand in hand, but are also two entirely different beings—regardless—the drive for athleticism was never instilled in me. On top of that, I never really looked unhealthy, and until I learned more about it, I believed exercise was solely a matter of body image.

Until college, I never truly understood the necessity of exercise. I declared my major as exercise science to pursue a career in physical therapy—primarily for the salary associated with the field. Little did I know that I would discover much more from choosing this major than I had ever planned. I learned just how amazing the body is—but more importantly, I learned how it could improve physically and physiologically. I grew to understand just how much exercise

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could shape someone's life. Though I eventually discarded the physical therapy component of my major, I had found something that truly interested me.

Eventually, I decided that it was high time to put my schooling into practice. I got off the couch and found the motivation to adopt an active lifestyle. I began spending less time working out my thumbs and more time pushing my body. I felt better and for the first time in my life, I considered myself an active person. Beyond that I developed a passion for a career in Cardiopulmonary Rehabilitation—a profession that revolves around helping patients implement lifestyle modification. This passion for helping people serves as the inspiration for this thesis. In short, I want these few pages to convey the knowledge I gained from my four years of school and help others lose their slippers and put on their running shoes.

Why Exercise?

Many people who are not overweight or suffering from an inactivity-related illness may ask, why exercise? Simply put: exercise works wonders on the human body. Exercise can help cure diseases and promote stronger bones, muscles, and joints. It can even help elevate mood and also improve physical appearance. Exercise benefits all age groups by increasing functional capability. The benefits of exercise speak for themselves—I call exercise the magic cure for a reason. The better question to ask is why would you not exercise?

First, let's delve into the benefits that exercise has for the cardiovascular system. Exercise can be used to prevent heart disease and help individuals rehabilitate after cardiac events. According to the American College of Sports Medicine (abbreviated as the ACSM), after adopting an active lifestyle for at least three months, there is a lower risk for having a cardiac event (Lippincott, 2013). The heart is a muscle, so when put through training, it strengthens. Exercising also helps to naturally lower blood pressure. When the heart becomes a stronger pump, it does not need to pump as fast to deliver blood to the body. This in turn lowers blood pressure. Furthermore, exercise can prevent atherosclerosis by helping to remove plaque from the linings of blood vessels. High cholesterol and blood pressure are both ACSM risk factors for heart disease—meaning that exercise can also eliminate these as risk factors.

Exercise also can improve several components of the musculoskeletal system. Weightlifting, in particular, can help increase bone, joint, and muscle strength significantly. Exercise can be utilized to help prevent and treat osteoporosis. The weight-bearing activity involved with training increases the density of bones—counteracting the frailty that is onset with osteoporosis. Arthritis can be treated by regularly exercising as well. The motions associated with weightlifting promote stronger joints. Most notably, exercise benefits the musculoskeletal

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system by increasing muscular strength. Exercise helps muscles hypertrophy, or grow, which in turn allows for an increased capability for power output. This allows for faster, stronger movements. Furthermore, this increase in muscle mass also results in a higher energy demand for the body; in turn, this increases metabolism.

Engaging in an active lifestyle can decrease body fat, which in turn can help treat obese individuals. Obesity is defined as having a Body Mass Index (BMI) of 30 or greater. BMI is a function of an individual's weight divided by their height. Obesity is linked to numerous diseases that can be fatal, but most notably, heart disease. Fortunately, obesity is entirely reversible. When exercising, fat cells undergo cellular processes to be converted into energy. To keep up with the additional energy demand from exercise, the body utilizes fat cells more. Obesity is another ACSM risk factor for heart disease, and like high blood pressure and high cholesterol, engaging in regular activity can control it. In fact, most risk factors associated with heart disease are associated with exercise in some way.

Other positive benefits for the body emerge from exercising. Research by *Consumer Reports on Health* found that after age 70, aerobic capacity and muscular strength experience a sharp plummet ("Your Lifetime Exercise Plan," 2007). The same study also found that exercise can significantly reduce the effects of this decline. Exercise has been shown to reduce levels of fatigue, and can improve sleep. Significant research has also been done to show that exercise may be linked to the prevention of certain cancers, diabetes, and other diseases. Exercise can also be used to manage the effects of several of these diseases. Furthermore, exercise releases endorphins—hormones that can cause an elevated mood. Essentially, exercising can make you a happier person. Exercise can also foster a larger sense of self-confidence due to weight loss or more toned muscle.

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The bottom line is that exercise is much more than a weight loss solution. Though weight loss can be a good motivation to begin an active lifestyle, exercise has so many other applications for the body beyond physical appearance. Most importantly, exercise allows for better aging. The preventative aspect of exercise should encourage everyone to adopt a healthier lifestyle, so that they can avoid needing exercise for rehabilitation later in life.

Why Plans Fail

Many people find the initial motivation needed to start exercising. More often than not, however, these plans often fall flat. Three major culprits for this exercise inconsistency are improper plan composition, incorrect goal setting, and injury. Understanding how to avoid these obstacles allows for the successful adoption of an exercise regimen.

Improper planning greatly attributes to exercise plans failing. Exercise is a multimodal activity—it requires variation. For example, running has numerous benefits for the body, but after a certain point, it will not increase muscular strength or flexibility. Likewise, lifting weights will help build muscular strength, but not necessarily muscular endurance. Plans are often discarded because improper composition does not engender the results that people want to see. Furthermore, this repetitiveness can lead to boredom. An exercise plan must synthesize various components of fitness to promote overall well being. Bassett et al. (2013) performed a study on osteoarthritis patients that showed those with action plans are much more likely to adhere to their exercise program and improve their fitness than those without. A study performed by Scholz et al. (2006) also found the positive effect of action plans in the maintenance of exercise regularity. Having a properly constructed plan can help keep people on track.

Another reason exercise plans fail is improper goal setting (or a lack of goal setting). Goals help guide an exercise regimen and can help steer people if they start veering off course. Goals must be both specific and reasonable. For example, many people set a goal to lose weight. While the goal of losing weight is reasonable, there is no specific weight goal in mind or timeline to reach the goal. Conversely, someone could set a goal to lose twenty pounds in one week. This goal has a specific timeline and weight set, however, the goal is not reasonable. An

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example of an effective goal would be “I want to lose 10 pounds in two months.” This goal is measurable, specific, and reasonable. Proper goal setting can serve as a reminder of an individual’s motivation behind exercising.

Improper goal setting can also lead people to another common cause of exercise inconsistency. Many people also fall off the exercise bandwagon because they do not see the results they anticipate. People often expect to have their perfect body in a few months, or expect their weight to rapidly drop off. When the pants remain tight and the scales show disappointing numbers, some may lose hope and quit their regimen. Achieving these types of goals requires both time and dedication. Weight loss can happen with exercise, but not rapidly. To avoid this, goals should be short term in addition to being specific and reasonable. Success in an exercise plan should not be measured by weight loss or appearance, but rather measured by the dedication to the plan.

While the purpose of this paper is to suggest how to draft and maintain a successful exercise plan, researching proper exercise technique is crucial for beginners as well. Weightlifting in particular requires maintaining of proper form. Improper technique and overreaching can cause exercisers to increase their risk of injury. Injury is another key player in prematurely ending an exercise regimen. Injuries can range from strains to much worse, but people are often forced to halt their programs because of unfortunate injury. I encourage anyone beginning an exercise plan to either consult an exercise specialist or do proper research before attempting an exercise plan.

Lippke et al. (2004) performed research on the effect of self-efficacy on the success of an exercise plan. In simple terms, self-efficacy means believing in yourself. The study found that having a heightened sense of self-efficacy could foster a successful exercise routine. While it

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seems like common sense, the study raises a good point. Adoption of an exercise plan is difficult. It causes soreness and aches, it requires a time commitment, and is essentially an overhaul of a former lifestyle. Exercise is not supposed to be easy, and many people approach it as if it is. To maintain a successful exercise plan, you must be willing to make sacrifices and expect difficulties. Eventually, exercise becomes habit, and the difficulties associated with adopting the lifestyle disappear.

Successful Plans

There are a few requirements to compose the perfect exercise plan. Every person beginning a plan needs to find the right combination of motivation in order to implement this lifestyle change. Granted, I could give all the advice in the world on how to devise a successful plan, but there is one required component that I cannot give: effort. Even the best-organized plan means nothing if the person utilizing it does not give the dedication it requires.

The first step to adopting an active lifestyle is writing out a structured plan. Having a plan in writing serves as a commitment to adhere to a new lifestyle and can help maintain organization throughout the change. This written agreement has some necessary components to achieve maximum effectiveness. At the top of the page should be goals, because goals serve as the primary motivation for exercise. They should be written big and bold to serve as a standout reminder. Following goals should be the exercise plan. A plan should have each day of the week written out. An example of this is below:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Rest	Run 20 minutes Weightlifting for arms	Run 45 minutes	Run 20 minutes Weightlifting for chest and back	Run 45 minutes	Run 20 minutes Weightlifting for legs	Rest

Example 1. An example of an exercise plan's daily commitments.

The table above shows general guidelines for a plan. These generalizations should be expanded upon in a different section. Something should be written under each day—an off day should be written in as “rest.”

Another reason for having this written plan is to establish distinction between physical activity and exercise. Physical activity refers to the activities of daily life that require some form

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of movement, like walking to work. Exercise, however, is a planned and structured activity to improve some component of physical fitness, like jogging for thirty minutes. When devising an exercise plan, many people mistake physical activity for exercise. Walking to work is not exercise because it does not go beyond a daily activity. If someone sets a goal to lose weight, doing a typical activity will not burn extra calories. Therefore, activities outside the norm must be performed to warrant the term “exercise.”

Plans must be adaptable, and progression prevents an exercise program from falling flat. As the body changes and adapts to exercise, so must the exercise plan. For example, an individual lifts twenty-pound weights. Eventually, lifting these twenty-pound weights becomes easy. If that same individual continues to lift twenty-pound weights, no more improvements will be made—meaning that weight needs to be increased to improve the body further. This concept applies to all components of fitness, and must be accordingly incorporated into the construction of all exercise plans.

There are four primary components of “fitness”: cardiorespiratory fitness, muscular strength, muscular endurance, and flexibility. Each component is an important part of becoming a fit individual—every plan needs to contain exercises to address all of these components. The American College of Sports Medicine has several suggestions to help create a successful exercise plan by training these components (Lippincott, 2013). First, it recommends engaging in 150 minutes of cardiovascular activity every week to train cardiorespiratory fitness. This activity should be at least a moderate intensity in order to get significant benefits for health. Moderate can be defined in a few different ways, but the simplest way to determine intensity is by self-evaluation. To qualify as moderate intensity exercise, the exercise should feel fairly light to somewhat hard in difficulty. In terms of progression, intensity (speed, incline, time, etc.) should

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be increased if perceived exertion is rated closer to fairly light than somewhat hard. In order to reap the benefits of this training, exercise should be performed in at least ten-minute bouts.

There are numerous modes that can be used to train cardiorespiratory fitness. Examples of this include walking, swimming, and cycling. Essentially, any repetitive, aerobic activity can qualify as cardiorespiratory training. Picking a mode of exercise should depend on intensity, but should also depend on preference. For example, if an individual is physically capable, running should be performed instead of walking because it will be easier to exercise at a moderate intensity. Variation can also be helpful when selecting a mode of exercise. Several people become bored from repeatedly engaging in the same activity, so some variance can help keep exercise entertaining.

Beyond cardiorespiratory training, resistance training should be included in every fitness plan. Weightlifting has numerous benefits for the body, but most notably, it helps improve muscular strength and endurance. The benefits of having increased muscular strength and endurance are being able to generate more power, and being able to maintain that power output for longer. This helps with sprinting, jumping, and other fast, powerful movements.

Weightlifting can help increase muscle mass, which in turn helps boost the metabolism. Having more mass demands more calories to use as fuel—meaning the body will naturally burn more calories. Weightlifting is equally as important in an exercise plan as cardiovascular exercise, and it is often neglected. There is a common misconception about weightlifting. Many people avoid weightlifting due to a belief that weightlifting causes significant bulking. However, unless a heavy weightlifting-focused regimen is performed, many people (like women) are incapable of having this bulk. In fact, several people that engage in weightlifting are incapable of significantly increasing their muscle mass.

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The ACSM also has several recommendations for resistance training as well (Lippincott, 2013). Engage in resistance training 2-3 days per week—exercising large muscle groups. How training days are divided up is up to the exerciser. All major muscle groups can be worked twice a week or opposing groups can be trained on opposing days. For example, a total body workout could be performed, or one day could be upper body and the other day lower body. This choice depends entirely on personal preference and availability. Resistance training can be done using free weights, resistance training machines, and even resistance bands. Weightlifting movements should be slow and controlled. Each individual lift and movement is called a repetition, and a group of these repetitions is called a set. When resistance training 2-4 sets should be performed, with each set having 8-12 sets. Progression is also important when weightlifting. Weight should be increased if at any point 12 repetitions with a weight become easy. However, with resistance training, if a desired level of muscle mass has been obtained, weight should not be increased. Resistance training is an instance where “quality over quantity” truly applies. Form should be maintained throughout exercise, and should not be sacrificed for repetitions.

The final component of fitness is flexibility training. Like resistance training, flexibility should be trained 2-3 days per week (Lippincott 2013). Flexibility training does not only allow for a greater range of motion, but it also helps to promote better balance, reduce the risk of injuries, and can prevent some muscle soreness. Stretches should be static and held for 10-30 seconds, to the point that it is slightly uncomfortable. These stretches should be done 2-4 times per session.

After the plan has been composed, there is only one thing left to do—and that is putting it into action. There is one other tool that can help maintain an exercise plan: social support. Social support can be found through numerous outlets. The way I found social support was

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having a workout partner. Having someone that shares common goals can help motivate you to get into the gym. An exercise partner helps you push your limits as well. Attending group exercise classes can also serve as a great way to meet new people, and provides the encouragement to exercise. Beyond the gym, many people find social support to maintain an exercise regimen online. Regardless of where you find it, even having some encouragement can help keep you driven to succeed.

Conclusion

Everyone has their own agenda for wanting to begin exercising. Whatever the reason, adopting exercise can save your life. I cannot stress it enough: exercise is the magic cure. If you think you need to get into shape—you do. Exercise is much more than a six-pack solution.

It is something we have all struggled with—a series of never-meant-to-be beach bodies and broken New Year's resolutions. We look in the mirror and promise ourselves that the time for change is now—and with the proper motivation and planning, the time for change *is* now. Truthfully, starting to work out is difficult. Maintaining and continuing to work out is even more difficult. It requires a heavy time commitment for planning and actually getting to the gym. I mentioned it previously and I will say it again: the most well constructed plan can fall apart if it does not also have dedication. When adopting an active lifestyle, several things can work against you. It may even begin to feel like change is impossible.

Fortunately, change is possible. The last (and arguably most important) component of a successful exercise program is you. You have to believe in yourself. You have to find others to support your goals. You have to work hard and continue to work hard. You might question whether or not you can commit.

But you can do it.

You can put in the dedication. You can find the time to exercise. You can make that commitment with yourself to work harder. You can heal your body and keep it healthy. You can take charge and change your life. You can do it. You can make yourself a fit individual.

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